

ABSTRACT

A temperature control system for an inkjet printhead assembly, including a printhead assembly having ink ejection elements energizable by an electrical pulse having an amplitude and pulse width, a sensor coupled to the printhead assembly for generating a signal representative of the printhead temperature, a memory for storing current printhead operating parameters and a controller for reading a nominal operating pulse width, the signal from the sensor and the printhead operating parameters, said controller calculates an adjusted pulse width using the nominal operating pulse width, the signal from the sensor and the current printhead operating parameters, wherein the controller uses the adjusted pulse width to control printhead temperature. A method of controlling the temperature of an inkjet printhead including providing a printhead assembly having ink ejection elements energizable by an electrical pulse having an amplitude and pulse width, reading a nominal printhead operating temperature and a nominal operating pulse width, obtaining current printhead operating parameters from a memory and a current printhead operating temperature using a sensor on the printhead, adjusting the pulse width based on the printhead operating parameters and the measured temperature of the printhead and applying the adjusted operating pulse width to the printhead to control printhead temperature.